

Notice of Allowability

Application No.

10/702,043

Examiner

Erin D. Chiem

Applicant(s)

HASHIZUME ET AL.

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 8/29/07.
2. ☒ The allowed claim(s) is/are 1-15 and 22-25.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☒ Information Disclosure Statements (PTO/SB/08),
Paper No./Mail Date 11/6/03
4. ☐ Examiner's Comment Regarding Requirement for Deposit
of Biological Material
5. ☐ Notice of Informal Patent Application
6. ☐ Interview Summary (PTO-413),
Paper No./Mail Date _____
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____

DETAILED ACTION

In a telephonic interview with Ms. Mary Goulet on November 13, 2007, Examiner received confirmation from applicant's counsel to amend independent claim 6, 12, and 25 to include the allowable subject matter.

6. A wavelength selective optical device comprising:

a first optical fiber in which optical signals with a plurality of multiplexed wavelengths is propagated;

a replaceable first graded index rod lens or another graded index rod lens having a different $A^{1/2}$ than an $A^{1/2}$ of the replaceable first graded index rod lens, the lens having a first end surface thereof on which a light emitted from an end surface of the first optical fiber is incident, and a second end surface thereof from which a parallel light beam is emitted;

an optical filter having a predetermined range of a pass bandwidth or a reflecting bandwidth arranged to face to the second end surface of the first graded index rod lens so that the parallel light beam emitted from the first graded index rod lens is incident on the optical filter; and

a second optical fiber arranged on a side of the first end surface of the first graded index rod lens to which a light reflected by the optical filter is coupled through the first graded index rod lens;

the replaceable first graded index rod lens being replaceably disposed contacting the optical filter wherein upon replacement by another graded index rod lens an angle of the parallel light incident on the optical filter is adjusted by changing a refractive index distribution constant of the first graded index rod lens such that a wavelength range of the light reflected by the optical filter is tuned within the predetermined range; and

a tube through which the first rod lens can be pulled-out.

12. A wavelength selective optical device comprising:

a first optical fiber in which optical signals with a plurality of multiplexed wavelengths is propagated;

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a replaceable first graded index rod lens or another graded index rod lens having a different $A_{1/2}$ than an A_{v2} of the replaceable first graded index rod lens, the lens having a first end surface thereof on which a light emitted from an end surface of the first optical fiber is incident, and a second end surface thereof from which a parallel light beam is emitted;

an optical filter arranged to face to the second end surface of the first graded index rod lens so that the parallel light beam emitted from the first graded index rod lens is incident on the optical filter;

a second graded index rod lens having a first end surface thereof facing to the first optical fiber; and

a second optical fiber arranged on the side of a second end surface of the second graded index rod lens to which a light transmitted from the optical filter is coupled through the second graded index rod lens,

the replaceable first graded index rod lens being replaceably disposed contacting the optical filter wherein upon replacement by another graded index rod lens an angle of the parallel light incident on the optical filter is adjusted by changing a refractive index distribution constant of the first graded index rod lens such that a wavelength range of the light transmitted from the optical filter is tuned within a desired range; and

a tube through which the first rod lens can be pulled-out.

25. A wavelength selective optical device comprising:

a replaceable first graded index rod lens or another graded index rod lens having a different A_{v2} than an A_{v2} of the replaceable first graded index rod lens, the lens having a first end surface thereof on which a divergent light is incident, and a second end surface thereof from which a parallel light beam is emitted; and

an optical filter having a predetermined range of a pass bandwidth or a reflecting bandwidth arranged to face to the second end surface of the first graded index rod lens so that the parallel light beam emitted from the first graded index rod lens is incident on the optical filter;

the replaceable first graded index rod lens being replaceably disposed contacting the optical filter wherein upon replacement by the another graded index rod lens an angle of the parallel light incident on the optical filter is adjusted by changing a refractive index distribution constant of the first graded index rod lens such that a wavelength range of the

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light which is reflected or transmitted by the optical filter is tuned within the predetermined range; and

a tube through which the first rod lens can be pulled-out.

The following is a statement of reasons for the indication of allowable subject matter:

The prior art made of record discloses either rod lens held within a tube by friction force, but the rod lens cannot be pulled out. Examiner believes there would be no obvious motivation to combine the prior art as it appears to teach away from the claimed invention since the prior art of record teaches the method of friction fitting wherein the rod lens is not removable or cannot be pulled out once the rod lens is fitted into the holder. Therefore claims 2-5, 7-11, 22-24 are allowed on the merit of dependent on allowable independent claims 1, 6, 12, and 25.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Erin D. Chiem whose telephone number is (571) 272-3102. The examiner can normally be reached on Monday - Thursday 9AM - 5PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Frank G. Font can be reached on (571) 272-2415. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Erin D Chiem
Examiner
Art Unit 2883



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